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CLAIMS

- 1. An isolated polynucleotide comprising:
- (a) a nucleotide sequence encoding a polypeptide having chorismate mutase activity, wherein the amino acid sequence of the polypeptide and the amino acid sequence of SEQ ID NO:16 have at least 80% sequence identity based on the Clustal pairwise alignment method with default parameters of KTUPLE=1 GAP PENALTY=3, WINDOW=5 and DIAGONALS SAVED=5, or
- (b) the complement of the nucleotide sequence, wherein the complement and the nucleotide sequence contain the same number of nucleotides and are 100% complementary.
 - 2. The polynucleotide of Claim 1, wherein the amino acid sequence of the polypeptide and the amino acid sequence of SEQ ID NO:16 have at least 90% sequence identity based on the Clustal alignment method.

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- 3. The polynucleotide of Claim 1, wherein the amino acid sequence of the polypeptide and the amino acid sequence of SEQ ID NO:16 have at least 95% sequence identity based on the Clustal alignment method.
- 4. The polynucleotide of Claim 1 wherein the polypeptide comprises the amino acid sequence of SEQ ID NO:16.
 - 5. The polynucleotide of Claim 1, wherein the nucleotide sequence comprises the nucleotide sequence of SEQ ID NO:15.
- 25 6. A recombinant DNA construct comprising the polynucleotide of Claim 1 operably linked to at least one regulatory sequence.
 - 7. A cell comprising the polynucleotide of Claim 1.
- 30 8. The cell of claim 7, wherein the cell is selected from the group consisting of a yeast cell, a bacterial cell and a plant cell.
 - 9. A transgenic plant comprising the polynucleotide of Claim 1.

- 10. A virus comprising the polynucleotide of Claim 1.
- 11. A method for transforming a cell comprising introducing into a cell the polynucleotide of Claim 1.

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- 12. A method for producing a transgenic plant comprising (a) transforming a plant cell with the polynucleotide of Claim 1 and (b) regenerating a plant from the transformed plant cell.
- 10 13. A vector comprising the polynucleotide of Claim 1.
 - 14. A seed comprising the recombinant DNA construct of Claim 6.

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